PREVERJANJE ZNANJA 3. TEST
Potence in koreni

1. Poenostavi:

   (a) $(-\frac{4x}{3y})^2(-\frac{3y}{2x})^5 =$

   (b) $(\frac{3^{-1}a^2b^{-3}}{2^{-2}a^{-1}})^{-3}(\frac{2^2a^{-5}}{a^{-2}b^5})^4 : (\frac{3^{-1}a^7}{b^{-4}})^{-3} =$

   (c) $\frac{5^n-3\cdot5^{n-2}}{11\cdot5^{n-2}} =$

   (d) $\frac{x^n-4x^{n-2}}{x^{n-1}} =$

   (e) $\sqrt[4]{x^3y^{-5}} \cdot \sqrt[7]{x^{-4}y^2} : \sqrt[28]{x^{-2}y} =$

   (f) $\frac{\sqrt[5]{(xy^2)^3}\sqrt[3]{(xy)^5}}{\sqrt[15]{x^4y^{-2}}} =$

   (g) $(32a^{\frac{4}{7}})^{\frac{2}{5}}a^{-\frac{1}{35}} : (128a^{-\frac{9}{5}})^{\frac{2}{7}} =$

   (h) $(\frac{125a^{-\frac{1}{5}}b^4}{b^{\frac{3}{7}}})^{\frac{5}{3}} \cdot (\frac{b^{-\frac{25}{21}}}{5})^5 =$

2. Izpostavi skupni faktor:

   (a) $10 \cdot 6^x - 6 \cdot 6^{x-2} =$

   (b) $3^{x+1} + 3^x + 3^{x-1} + 3^{x-2} =$

   (c) $2^{2x+1} + 3 \cdot 4^x - 19 \cdot 2^x \cdot 2^{x-2} =$

3. Natančno izračunaj:

   (a) $13\sqrt{50} - 21\sqrt{18} =$

   (b) $\sqrt{75} + \sqrt{108} - \sqrt{147} =$

   (c) $7\sqrt{50} + 3\sqrt{720} - 5\sqrt{98} =$

   (d) $\sqrt[3]{64^{\frac{5}{6}} - 8 \cdot 81^{\frac{1}{4}}} =$

   (e) $\sqrt{625^{\frac{3}{4}} - (\frac{1}{2})^{-2}} + 2^{\frac{1}{3}} \cdot 4^{\frac{1}{3}} =$

4. Racionaliziraj imenovalec:

   (a) $\frac{15}{\sqrt{3}} =$

   (b) $\frac{\sqrt{5}}{\sqrt{15}} =$

   (c) $\frac{7}{2\sqrt{7}} =$

   (d) $\frac{2+\sqrt{3}}{\sqrt{3}} =$

   (e) $\frac{6}{5-\sqrt{10}} =$

5. Reši enačbo:

   (a) $\sqrt{x} + 3 = 0$

   (b) $2\sqrt{x} - 4 = 0$

   (c) $\frac{1}{\sqrt[9]{x}} + 2 = 0$

   (d) $\sqrt[7]{8x} = 4$

   (e) $\sqrt[8]{-81x} - 3 = 0$

   (f) $\sqrt{7x - 3} = \sqrt{4x + 6}$

   (g) $\sqrt[4]{5 - 2x} - \sqrt[4]{3x} = 0$

   (h) $\sqrt[5]{81\sqrt[3]{x}} = 3$

   (i) $\sqrt[3]{12 - \sqrt{2}\sqrt[4]{x}} = 2$